

In the Specification:

*Please amend Page 5, paragraph 3 as follows:*

There have been efforts to allow customers to scan bar codes printed on off-line material, and use the bar code to provide digital links to products. The ~~CueCat~~-CueCat® from Digital Convergence (~~see [www.erq.com](http://www.erq.com) and [www.digitalconvergence.com](http://www.digitalconvergence.com)~~) is a bar code reader and software. When the bar code reader is swiped across a product with a UPC (Universal Product Code), the product's web page appears on the computer.

*Please amend Page 5, paragraph 4 as follows:*

Anoto Corporation (~~see [www.anoto.com](http://www.anoto.com)~~) provides a pen that reads tiny dot codes printed in newspaper advertisements. When a user sees an ad for flowers and fills out the form, the pen wirelessly transmits the handwriting and user id to the user's mobile phone, and their order is placed electronically.

*Please amend Page 14, paragraph 3 as follows:*

In an alternative embodiment, the absolute position of the probe is transmitted to the computer. In this manner, continuous motion of a computer generated image is provided as the probe is swept over the printed medium. In one aspect of this embodiment, the probe device comprises a digitizer which uses magnetic fields to determine the position of the probe, such as Wacom graphic tablet digitizers (~~see <http://www.wacom.com/productinfo/intuos.html>~~).

*Please amend Pages 14, paragraph 4 and continuing on page 15 as follows:*

In another embodiment of the invention, the probe is a human finger, and the finger position is measured by coupling an electric field into the finger and measuring the coupling to

receiving electrodes located below the off-line media as taught in co-pending U.S. Patent application serial number 09/226,788 filed 1/07/99, now U.S. patent 6,281,888, entitled, "Pen Input Device using Electrostatic Coupling," incorporated herein by reference.

*Please amend Page 18, paragraph 1 as follows:*

At block **510** the position of the sampled image is determined. A preferred method of position detection is to perform cross-correlation between sampled image and reference image. The highest correlation will occur when the sampled image is placed in the relative position of the probe **104** during sampling. A preferred method of cross-correlation is taught by Zimmerman, et. al. in co-pending ~~US~~ U.S. Patent application serial number 09/640,133, now U.S. patent 6,650,320, entitled, "Digital Pen Using Visible Image and Autocorrelation of Substrate Pattern," incorporated herein by reference.

*Please amend Page 19, paragraphs 2 and 3 as follows:*

Alternate methods of matching sampled images to reference images are taught in co-pending U.S. application Serial Number 09/593,131, now U.S. patent 6,757,686, entitled, "Method and Apparatus for Representing Database and Query Information Using Interval Hash Tree", and U.S. Patent 6,009,198, entitled, "Method for matching perceptual shape similarity layouts across multiple 2D objects", both of which are incorporated herein by reference.

In another embodiment a color camera is used in the probe **104**. A method of searching and matching color sample images to color reference images are taught in co-pending U.S. applications—application Serial Number 09/593,465, now U.S. patent 6,691,126, entitled, "Method and apparatus for locating multi-colored objects in an image or video database", U.S. application Serial Number 09/441,050, now U.S. patent 6,594,383, entitled, "Method and

apparatus for indexing and retrieving images from an image database based on a color query", and U.S. application Serial Number 09/440,852, now U.S. patent 6,469,706, entitled, "Method and apparatus for detecting regions belonging to a specified color surface in an unsegmented image", all of which are incorporated herein by reference.

*Please amend Page 20, paragraph 1 as follows:*

Figure 6 illustrates an embodiment of the invention 600 using the finger 602 as the probe to synchronize an electronic audio presentation to off-line media. A book 603 containing text 604 and drawings 606 is placed on top of an electrostatic digitizer 608, as taught in U.S. Patent application serial number 09/640,133, now U.S. patent 6,650,320. The digitizer detects and reports the position of the finger 602 on or near the book (x, y, and z) to a multimedia computer 610 through a data communication link 612, such as USB (Universal Serial Bus). A compact disk storage 614 in the computer 610 contains electronic media particular to the book 603, including the identity and location of text and illustrations. The digitizer 608 determines page number by reading bar codes printed on the edge of the book 603 as taught by Lisa Stifelman in "Augmenting Real-World Objects: A Paper-Based Audio Notebook" Proceedings of CHI '96, Vancouver, Canada (~~available on-line <http://www.media.mit.edu/~lisa/chi96.html>~~), incorporated herein by reference. Using this method of bar code scanning, the computer 610 is synchronized to the page of the book 603 the user 616 is viewing.

*Please amend Page 23, paragraph 2 and continuing on page 24 as follows:*

The off-line material does not have to be printed text. The method of selecting, highlighting, copying, underlining, or otherwise manipulating images presented in media 106, may be applied to cursive or printed handwriting presented in media 106. In a preferred

embodiment of a handwriting application, the probe **104** includes a CMOS camera to capture image segments and a database of the handwriting is queried to match handwriting segments to a database of handwriting. In a preferred embodiment, the database of handwriting is created by a digitizing pen, such as Anoto—(see ~~<http://www.anoto.com>~~). Methods to match handwriting segments to a database of handwriting are taught in U.S. Patent 6,108,444 “Method of grouping handwritten word segments in handwritten document images,” which teaches methods of detecting handwritten word segments in handwritten document images, and U.S. Patent 5,953,451 “Method of indexing words in handwritten document images using image hash tables,” which teaches methods of indexing words in handwritten document images using image hash tables, both of which are incorporated herein by reference. Otherwise the handwriting can be created with normal pen or pencil and the scribed sheet scanned into the computer.